



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/482,717	01/12/2000	Norman C Chan	4366-5	7386

7590 07/08/2003
Sheridan Ross PC
1560 Broadway Suite 1200
Denver, CO 80202

EXAMINER

SINGH, RAMNANDAN P

ART UNIT	PAPER NUMBER
----------	--------------

2644

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Gh

Office Action Summary

Application No.

09/482,717

Applicant(s)

CHAN ET AL.

Examiner

Dr. Ramnandan Singh

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "whether **intolerable echo energy** is being received" on page 16, lines 11-12. The term "**intolerable echo energy**" has not been defined in terms of a level of the echo energy and an applicable threshold. Hence, it is vague and indefinite.

A similar thing holds for claim 5.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 7, 11-13, 16 are rejected under 35 U.S.C. 102(4) as being anticipated by either Litzenberger et al [WO 9800960] or Hamilton et al [US 5,764,759].

As per claims 1, 11, 16:

Litzenberger et al teaches a method and switching center for performing echo cancellation within a communication network shown in Fig. 6, comprising a dynamic port device 110 and a call processing system 134, wherein the dynamic port device 110 includes a pool of echo cancellers 126, a pool switch matrix 120 in communication with DSO lines 106 emerging from the switch core 102 (FIG. 5). Echo cancellers 126 are pooled and **selectively interconnected** by call processing control 134 through a pool switch matrix 120 to individual transmission lines only in the event that a determination is made that **the line requires echo cancellation** [page 7, lines 2-18; Figs. 6-8; page 10, line 5 to page 11, line 4; page line 4 to page 13, line 16; pages 16 to 20].

Hamilton et al teaches a switch 20 which permits calls from any line interface to be routed to any group of call processing resources block 203, as shown in Fig. 2, wherein the call processing resources 203 includes a pool of echo cancellers [col. 2, lines 46-52]. Fig. 4 shows that an echo canceller may be utilized on any one of a number of channels [col. 3, lines 40-53; col. 4, lines 41-67; Fig. 5; col. 5, lines 1-25].

As per claims 2-4, 7, 12, 13:

Litzenberger et al teaches the pool switch matrix 120 to dynamically route either access-side transmissions or network-side transmissions to echo canceller inputs to cancel echoes coming from either direction [Figs. 1-7].

Hamilton et al teaches a switch 201 and a echo cancellers 403, 404 as shown in Figs. 2 and 4. Fig. 5 illustrates the processing steps [col. 5, lines 14-53].

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 7, 9-13, 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Dreyfert et al [US 6,055,311].

Regarding claims 1, 11, 16, Dreyfert et al teaches a method and group switch 10 for allocating echo cancellers in the echo canceller pool 30 as shown in Fig. 5, wherein the echo canceller pool 30 is maintained to form a part of the trunk signaling subsystem (TSS) [col. 2, lines 38-51].

Regarding claims 2-4, 7, 12, 13, Dreyfert et al discloses a traffic control system 108 associated with gateway MSC 106 and echo canceller pool 110. The gateway MSC (106) can connect the echo cancellers to any one of a

Art Unit: 2644

plurality of trunk lines, and a trunk line to a remote PSTN switch 112 [Fig. 6, col. 4, lines 35-67].

Regarding claims 9-10, Dreyfert et al teaches using a programmable digital signal processor (DSP) which can include echo cancellers [Fig. 7; col. 6, line 65 to col. 7, line 9]. In addition, these resources are released upon termination of a call [Fig.7, block 242].

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Litzenberger et al as applied to claims 1 and 16 above, and further in view of [JP-05268121].

Litzenberger et al does not teach detecting an echo by perceiving audibly. However, it is well known in the art .

Toshiyuki teaches applying an echo canceller when the talking quality is deteriorated. Under this situation, the subscriber operates a pushbutton to implement the adaptive operation of the echo canceller 22 [Abstract].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the technique of Toshiyuki to Litzenberger et al to realize stable talking quality by reducing the deterioration in the speech quality by an echo canceller, and thereby improve the communication.

9. Claims 6, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Litzenberger et al as applied to claims 1, 11 and 16 above, and further in view of Goeddel et al [US 6,141,345].

Regarding claims 6, 15, 17, Litzenberger et al does not teach a call classifier. However, it is well-known in the art [Applicant's Specification; p. 13, 4-6].

Goeddel et al teaches a call classifier to determine if the call is a voice call or a data call [col. 5, lines 17-23].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the technique of the call classifier of Goeddel et al to Litzenberger et al to determine if the call is an audio call or a non-audio

Art Unit: 2644

(data) call. If the call is an audio call, the access platform switches echo canceling resources to allocate an echo canceller to cancel echoes, and thereby improve the speech quality [Goeddel et al; col. 2, lines 9-12].

10. Claims 8, 14, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Litzenberger et al as applied to claims 1, 11 and 16 above, and further in view of Davis et al [US 5,815,486].

Regarding claims 8 and 14, Litzenberger et al does not teach expressly a multi-channel hardware echo cancellation device in the echo canceller pool. However, the hardware implementation of a digital echo canceller in the digital signal processor is well-known in the art.

Davis et al teaches the implementation of a multi-channel GSM architecture by using multiple transcoder/echo-cancellers 800 as shown in Fig. 8 [col. 10, lines 44-55].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the multi-channel transcoder rate adapter having an integrated echo cancellation function of Davis et al to Litzenberger et al to maximize the bandwidth available to the GSM network and ensure the reliability of transmitted signals [Davis et al ; col. 1, lines 32-35].

Regarding claims 19-20, the combination of Litzenberger et al and Davis et al teaches echo cancellers implemented using DSPs, wherein the echo cancellers detect the presence of echo and filter the echo from the received signals [Davis et al; col. 3, lines 1-16].

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Ramnandan Singh whose telephone number is (703)308-6270. The examiner can normally be reached on M-F(8:00-4:30).

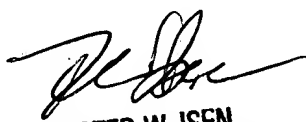
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester Isen can be reached on (703)-305-4386. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-0377.

Dr. Ramnandan Singh
Examiner
Art Unit 2644



June 18, 2003



FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600